

CHAPTER FOUR - ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter presents the environmental consequences of the management actions proposed under the four alternatives described in Chapter 2. These management actions were developed as alternative ways of resolving the issues that pertain to current VFO management and allocation of public land resources, their use, and protection. BLM decisions about resource use and management in the Vernal Planning Area (VPA) will be based on this Issue analysis.

Alternative A would protect important environmental values and sensitive resources while allowing the development of oil and gas resources, recreational facilities, and other human uses. Alternative B would emphasize direct human actions. Alternative C would minimize human activities within the VPA. Alternative D (No Action) would be a continuation of existing management practices defined in the Diamond Mountain RMP and in the Book Cliffs RMP.

This RMP/EIS provides a landscape scale, “big picture” level of analysis, and in most cases the exact locations of projected development and other changes are not known at this time. Issues for each specific resource or resource use presented in Chapter 3 are described under each alternative and by each issue that would affect that resource. Issues are defined as modifications to the existing environment brought about by implementing an alternative. Issues can be beneficial or detrimental, result from the action directly or indirectly, and can be long-term, short-term, temporary, or cumulative in nature.

For the analysis, BLM staff have used existing data, current methodologies, professional judgments, and projected actions and levels of use. The analysis takes into account the mitigation measures and stipulations described in Chapter 2. If Issues are not discussed, the analysis has indicated that none would occur, or their magnitude would be negligible.

Issues from actions to be carried out under more than one alternative are discussed under the first applicable alternative. This discussion then is referenced under the other pertinent alternatives.

4.1.1 Analytical Assumptions

The following are the general assumptions used for Issue assessment under all alternatives. Assumptions associated with a single issue (e.g. wildlife habitat) are included within the alternative discussion for that issue.

- All resource actions recognize valid existing rights
- The entire planning area is assigned one of the following leasing categories for oil and gas development:
 - Open Subject to Standard Lease Terms
 - Controlled Surface Use
 - No Surface Occupancy
 - Closed
- BLM would have the funding and work force to implement the selected alternative
- Additional NEPA analysis would be required to determine the impacts from site-specific actions (activity plans) and to identify additional mitigating measures.

- All lands identified for disposal are free of encumbrances and can be disposed. This includes cultural resource clearances.
- Demand for recreational activities (both dispersed and concentrated), energy production, vegetative resources and wildlife (non-consumptive and consumptive) use would increase.
- Short-term impacts are those that would last for fewer than 5 years.
- Long-term impacts are those that would last for 5 years or more.
- State highways and county roads through the VPA will remain open for access.
- The life of this Vernal RMP is expected to be 15 to 20 years.
- All decisions, projects, activities, and mitigation for the alternatives would be completed as described in Chapter 2 and Appendix K (Surface Stipulations Applicable to all Surface Disturbing Activities)
- Acreages were calculated using GIS technology and there may be slight variations in total acres between disciplines. These variations are negligible and will not affect analysis.
- The Hill Creek Extension (188,500 acres) was not leased in the Book Cliffs RMP and therefore is not included in the total acreage calculations of Alternative D (No Action).

4.1.2 Assumptions and Methodology for Minerals Development

A mineral potential report (MPR) was written for the VPA in June 2002. The report outlined the potential for occurrence and reasonable foreseeable development (RFD) of all mineral resources for the VPA for the next 15 to 20 years. The majority of the activity is predicted for oil and gas development. The potential for occurrence and future oil and gas activity is presented in Table 4-2. This activity includes potential mineral development on State, Private, USFS, Tribal lands, BLM, and USFWS administered lands within the planning area. Table 4-3 shows present and historic cumulative surface disturbance for all lands. Table 4-4 describes the cumulative surface disturbance for the RFD.

Predicted surface disturbance for oil and gas development by alternative on BLM lands only was calculated by multiplying the percent of BLM lands open for development under each of the alternatives by the total number of wells predicted for all lands. The resultant number of wells was multiplied by surface disturbance assumptions per well (Table 4-1) to arrive at total disturbance. (See specific resource chapters for applicable calculations.)

TABLE 4-1. DISTURBANCE ASSUMPTIONS	
Management Activity	Disturbed Acres
Access road construction	0.20 mile per well (.73 acres surface disturbance per well)
Well pad construction	2.4 acres surface disturbance per well
Existing pipeline systems	0.9 acre surface disturbance per well will be reclaimed within 1 year after completion of operations Gathering/Injection Lines: 0.47 acre surface disturbance per well (producing, shut-in, temporarily abandoned, and service wells) Transmission Lines: 0.15 mile per well (producing, shut-in, temporarily abandoned, and service wells). 0.79 acre surface disturbance per well (producing, shut-in, temporarily abandoned, and service wells). Approximately 1/3 of pipeline surface disturbance will be reclaimed in short term.
Powerlines	Ten (10) percent of wells (producing, shut-in, temporarily abandoned, and service wells) will have electrification. Where powerlines are present, the length will approximate access road length. Existing activity accounts for approximately 73 miles of powerlines. Future development activity will result in approximately 119 additional miles of powerlines. There will be approximately 0.25 acre of surface disturbance per mile of powerline.

TABLE 4-2. POTENTIAL FOR OCCURRENCE AND FUTURE OIL AND GAS ACTIVITY			
Development Area	Predicted Gas Wells	Predicted Oil Wells	Predicted Coal-bed Methane Wells
Manila-Clay Basin	45	0	0
Tabiona-Ashley Valley	0	30	0
Altamont-Bluebell	250	175	0
Monument Butte - Red Wash	3100	1700	0
West Tavaputs	350	75	50
East Tavaputs	600	75	80
Totals	4345	2055	130

TABLE 4-3. RELATED OIL AND GAS ACTIVITY SURFACE DISTURBANCE—PRESENT AND HISTORIC ACTIVITY				
Type of Disturbance	Short-term		Life of Activity	
	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>
Producing Oil Wells		1,146		1,718
Producing Gas Wells		1,212		1,818
Shut-In Oil Wells		198		296
Shut-In Gas Wells		157		235
Service Wells		336		504
Shut-In Service Wells		30		44
Temporarily Abandoned Wells		167		251
Abandoned Wells		284		426
Plugged and Abandoned Wells		1,080		1,621
Access Roads			1,043	8,688
Pipeline Gathering Systems				1,906
Transportation Pipeline Systems	608	1,057	608	2,147
Compressor Stations				66
Power Lines			73	18
Totals	608	5,667	1,724	19,738

TABLE A-4. RELATED OIL AND GAS ACTIVITY SURFACE DISTURBANCE—FUTURE ACTIVITY												
Type of Disturbance	Manila-Clay Basin				Tabiona-Ashley Valley				Altamont-Bluebell			
	Short-term		Life of Activity		Short-term		Life of Activity		Short-term		Life of Activity	
	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>
Producing Oil Wells						27		45		158		262
Producing Gas Wells		41		67						225		375
Access Roads			9	33			6	22			85	309
Pipeline Gathering Systems				21				14				200
Transportation Pipeline Systems	7	12	7	24	5	8	5	16	64	112	64	224
Compressor Stations				2				2				10
Power Lines			1	<1			1	<1			8	2
Totals	7	53	17	147	5	35	12	99	64	495	157	1382

TABLE A-4. RELATED OIL AND GAS ACTIVITY SURFACE DISTURBANCE—FUTURE ACTIVITY, CONTINUED												
Type of Disturbance	Monument Butte - Red Wash				West Tavaputs Plateau				East Tavaputs Plateau			
	Short-term		Life of Activity		Short-term		Life of Activity		Short-term		Life of Activity	
	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>	<i>Miles</i>	<i>Acres</i>
Producing Oil Wells		1,530		2,550		67		113		67		113
Producing Gas Wells		2,790		4,650		360		600		612		1,020
Access Roads			960	3,491			95	346			151	549
Pipeline Gathering Systems				2,256				223				355
Transportation Pipeline Systems	720	1,264	720	2,528	72	125	72	250	113	199	113	398
Compressor Stations				118				13				22
Power Lines			86	22			9	2			14	4
Totals	720	5,584	1766	15,615	72	552	176	1547	113	878	278	2,461

4.1.3 Types of Effects to Be Addressed—Direct, Indirect, and Cumulative

Direct Issues are attributable to implementation of an alternative that affect a specific resource and generally occur at the same time and place. Indirect Issues can result from one resource affecting another (e.g. soil erosion and sedimentation affecting water quality) or can be later in time or removed in location, but are still reasonable foreseeable. Long-term Issues are those that would substantially remain for many years or for the life of the project. Temporary Issues are short-term or ephemeral changes to the environment that return to the original condition once the activity is stopped, such as air pollutant emissions caused by earthmoving equipment during construction. Short-term Issues result in changes to the environment that are stabilized or mitigated rapidly and without long-term effects, such as surface disturbance that is revegetated immediately after earthmoving is completed. Issues can vary from a slightly discernible change to a full modification or elimination of the environmental condition. Cumulative Issues could also occur as the result of past, present, and reasonable foreseeable future actions by federal, state, and local governments, private individuals and entities in or near the VPA.

4.2 IMPACTS TO CRITICAL ELEMENTS

4.2.1 Effects of Alternatives on Prime and Unique Farmlands

All alternatives in this Draft EIS are consistent with the intent of the Secretary of Agriculture Memorandum 1827 for prime land. The project does not include any use of prime farmland nor does it impact any prime farmland soils (NRCS; 1990)

4.2.2 Effects of Alternatives on Invasive and/or Noxious Nonnative Plants

Vegetation and surface disturbing activities would occur under all alternatives in this Draft EIS. These disturbances all increase the risk of propagation of invasive or noxious nonnative plants. However, effective implementation of management common to all alternatives designed to minimize the spread of invasive and/or noxious plants would prevent this risk from being significant.

4.2.3 Incomplete or Unavailable Information

This analysis was done using the best-available information that is believed to be sufficient for a programmatic analysis of the impacts of multi-discipline decisions on management direction on a planning area-wide basis. This includes but is not limited to landscape level data such as GAP-level vegetation data, STATSGO soils data, and Field Office information on wildlife habitat boundaries. Additional site-specific data (including cultural resource surveys, TES surveys, etc.) will be required to complete site-specific NEPA analysis necessary prior to implementation of fire and fuel management activities.